

IN THE UNITED STATES PATENT & TRADEMARK OFFICEApplicant: Xiaoyang Qi, Ph.D. : Paper No: *6/1862* *#10*

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For: FUSOGENIC PROPERTIES OF SAPOSIN C AND RELATED PROTEINS  
AND PEPTIDES FOR APPLICATION TO TRANSMEMBRANE DRUG  
DELIVERY SYSTEMS

918 U.S. PTO  
09/780438  
02/09/01

INFORMATION DISCLOSURE STATEMENTTHE ASSISTANT COMMISSIONER FOR PATENTS  
Washington, D.C. 20231

Dear Sir:

In accordance with 37 C.F.R. §§1.97 and 1.98, Applicant herewith submits certain patent references and other information, which the Patent & Trademark Office may wish to consider in examining the above-identified application. The references and information are provided below, and are also listed on the attached Form PTO-1449.

REFERENCES5,766,626  
5,911,983  
6,099,857INVENTORGross  
Barranger et al.  
GrossISSUE DATEJune 16, 1998  
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*SS* 1) Shechter, E., Gulik-Krzywicki, T., Azerad, R., and Gros, C. (1971) Biochim. Biophys. Acta **241**, 431-442

*SS* 2) Berent, S.L., and Radin, N.S. (1981) Biochim. Biophys. Acta **664**, 572-582

*SS* 3) Fujibayashi, S., Kao, F.T., Jones, C., Morse, H., Law, M., and Wenger, D.A. (1985) Am.J. Hum. Genet. **37**, 741-748

*SS* 4) Fujibayashi, S., and Wenger, D.A. (1986) J. Biol. Chem. **261**, 15339-15343

*SS* 5) Fujibayashi, S., and Wenger, D.A. (1986) Biochim. Biophys. Acta **875**, 554-562

*SS* 6) Christomanou, H., Aignesberger, A., and Linke, R.P. (1986) Biol. Chem. Hoppe-Seyler **367**, 879-890

26874  
PATENT TRADEMARK OFFICE

7) Conzelmann, E., and Sandhoff, K. (1987) Methods Enzymol. **138**, 792-815

8) O'Brien, J.S., Kretz, K.A., Dewji, N., Wenger, D.A., Esch, F., and Fluharty, A.L. (1988) Science **241**, 1098-1101

9) Sano, A., and Radin, N.S. (1988) Biochem. Biophys. Res. Commun. **154**, 1197-1203

10) Morimoto, S., Martin, B.M., Kishimoto, Y., and O'Brien, J.S. (1988) Biochem. Biophys. Res. Commun. **156**, 403-410

11) Rorman, E.G., and Grabowski, G.A. (1989) Genomics **5**, 486-492

12) Nakano, T., Sandhoff, K., Stumper, J., Christomanou, H., and Suzuki, K. (1989) J. Biochem. (Tokyo) **105**, 152-154

13) Reiner, O., Dagan, O., and Horowitz, M. (1989) J. Mol. Neurosci. **1**, 225-233

14) Morimoto, S., Martin, B.M., Yamamoto, Y., Kretz, K.A., O'Brien, J.S., and Kishimoto, Y., (1989) Proc. Natl. Acad. Sci. U.S.A. **86**, 3389-3393

15) Wenger, D.A., DeGala, G., Williams, C., Taylor, H.A., Stevenson, R.E., Pruitt, J.R., Miller, J., Garen, P.D., and Valentine, J.D. (1989) Am. J. Med. Genet. **33**, 255-265

16) Christomanou, H., Chabas, A., Pampols, T., and Guardiola, A. (1989) Klin. Wochenschr. **67**, 999-1003

17) Grabowski, G.A., Gatt, S., and Horowitz, M. (1990) Crit. Rev. Biochem. Mol. Biol. **25**, 385-414

18) Greenberg, P., Merrill, A.H., Liotta, D.C., and Grabowski, G. A. (1990) Biochim. Biophys. Acta **1039**, 12-20

19) Morimoto, S., Yamamoto, Y., O'Brien, J.S., and Kishimoto, Y. (1990) Proc. Natl. Acad. Sci. U.S.A. **87**, 3493-3497

20) Schlotte, W., Harzer, K., Christomanou, J., Paton, B.C., Kustermann-Kuhn, B., Schmid, B., Seeger, J., Beudt, U., Schuster, I., and Langenbeck, U. (1991) Eur. J. Pediatr. **150**, 584-591

21) Schnable, D., Schroder, M., and Sandhoff, K. (1991) FEBS Lett. **284**, 57-59

22) Furst, W., and Sandhoff, K., (1992) Biochim. Biophys. Acta **1126**, 1-16

23) Kishimoto, Y., Hiraiwa, M., and O'Brien, J.S. (1992) J. Lipid. Res. **33**, 1255-1267

24) Vandenbussche, G., Clercx, A., Clercx, M., Curstedt, T., Johansson, J., Jornvall, H., and Ruysschaert, J.M. (1992) Biochemistry **31**, 9169-9176

25) Schnabel, D., Schroder, M., Furst, W., Klien, A., Hurwitz, R., Zenk, T., Weber, J., Harzer, K., Paton, B.C., Poulos, A., Suzuki, K., and Sandhoff, K. (1992) J. Biol. Chem. **267**, 3312-3315

26) Hiraiwa, M., Soeda, S., Martin, B.M., Fluharty, A. L., Hirabayashi, Y., O'Brien, J.S., and Kishimoto, Y. (1993) Arch. Biochem. Biophys. **303**, 326-331

27) Rafi, M.A., de Gala, G., Zhang, X.L., and Wenger, D.A. (1993) Somat. Cell Mol. Genet. **19**, 1-7

28) Qi, X., Leonova, T., and Grabowski, G.A. (1994) J. Biol. Chem. **269**, 16746-16753

29) Klein, A., Henseler, M., Klein, C., Suzuki, K., Harzer, K., and Sandhoff, K. (1994) Biochem. Biophys. Res. Commun. **200**, 1440-1448

30) Vaccaro, A.M. et al. (1994) FEBS Letters **349**, 181-186

31) Vaccaro, A.M., Salvioli, R., Barca, A., Tatti, M., Ciaffoni, F., Maras, B., Siciliano, R., Zappacosta, F., Amoresano, A., and Pucci, P. (1995) J. Biol. Chem. **270**, 9953-9960

32) Munford, R.S., Sheppard, P.O., and O'Hara, P.J. (1995) J. Lipid. Res. **36**, 1653-1663

33) Whitsett, J.A., Nogee, L.M., Weaver, T.E., and Horowitz, A.D. (1995) Physiol. Rev. **75**, 749-757

34) Andersson, M., Gunne, H., Agerberth, B., Boman, A., Bergman, T., Sillard, R., Jornvall, H., Mutt, V., Olsson, B., Wigzell, H. (1995) EMBO J. **14**, 1615-1625

35) Vaccaro, A.M., Ciaffoni, F., Tatti, M., Salvioli, R., Barca, A., Tognazzi, D., and Scerch, C. (1995) J. Biol. Chem. **270**, 30576-30580

36) Qi, X., Qin, W., Sun, Y., Kondoh, K., and Grabowski, G.A. (1996) J. Biol. Chem. **271**, 6874-6880

37) Liepinsh, E., Andersson, M., Ruysschaert, J.M., and Otting, G., (1997) Nat. Struct. Biol. **4**, 793-795

38) Harzer, K., Paton, B.C., Christomanou, H., Chatelut, M., Levade, T., Hiraiwa, M. and O'Brien, J.S. (1997) FEBS Lett. **417**, 270-274

39) Vaccaro, A.M., Tatti, M., Ciaffoni, F., Salvioli, R., Barca, A., and Scerch, C. (1997) J. Biol. Chem. **272**, 16862-16867

40) Ruysschaert, J.M., Goormaghtigh, E., Homble, F., Andersson, M., Liepinsh, E., and Otting, G. (1998) FEBS Lett. **425**, 341-344

41) Qi, X., and Grabowski, G.A. (1998) Biochemistry **37**, 11544-11554

42) Kervinen, J., Tobin, G.J., Costa, J., Waugh, D.S., Wlodawer, A., and Zdanov, A. (1999) EMBO J. **18**, 3947-3955

43) Regis, S., Filocamo, M., Corsolini, F., Caroli, F., Keulemans, J.L., van Diggelen, O.P.,  
and Gatti, R. (1999) Eur. J. Hum. Genet. **7**, 125-130

44) Qi, X., Kondoh, K., Krusling, D., Kelso, G.J., Leonova, T., and Grabowski, G.A. (1999)  
Biochemistry **38**, 6284-6291

45) Lakowicz, J.R. (1999) Principles of Fluorescence Spectroscopy, 2<sup>nd</sup> Ed., Kluwer  
Academic/Plenum Publishers, New York, NY

We have tried to obtain copies of all the references cited, but were unsuccessful in obtaining copies of the following references: nos. 6), 20), 40) and 45). Copies of all other listed references are attached. A copy of the listed reference is provided. No representation is made or intended that a prior art search has been made or that no better art than the listed is available. It is respectfully requested that the information be considered by the Examiner and made of record in the present application. Copies of the listed references are provided. No representation is made or intended that a prior art search has been made or that no better art than the listed is available. It is respectfully requested that the information be considered by the Examiner and made of record in the present application.

The Assistant Commissioner for Patents is authorized to charge any deficiency or credit any overpayment to Frost Brown Todd LLC Deposit Account No. 06-2226.

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